"HARDWARE AND SOFTWARE INTEGRATION

PROCESS FOR LOTTERY OPERATIONS"

BACKGROUND OF THE INVENTION

The present invention is a process of utilizing hardware and software for lotteries

5   of many kinds, including Instant Prize (scratch-and-win type), either via the Internet or by

dedicated equipment. In the first case, through the use of an Internet Service Provider, the

internet is used in a safe and efficient form to accomplish betting with the Official Lottery

Provider. Electronic banking transfer of funds is used as the method of payment. When

dedicated equipment is used, electro-mechanical devices are required, including a user

10   terminal to accomplish lottery bets with interaction between the gambler and the machine.

The machines are connected to the Official Lottery Provider, as well as the banking net,

allowing immediate payment to winners. This brings safety, avoidance of fraud and prize

losses, and simplicity and comfort to the operation. The use of this process on the Internet

can be accomplished with any computer terminal that is connected to the Internet, through

15   a World Wide Web (WWW) page provided by an Internet Services Provider. This service,

which uses and is connected on-line to the banking net, facilitates betting transactions

without requiring the gambler to leave his home. This initial centralization allows a virtual

expansion of bet-making points and substantially simplifies the form of payment. This

service provides an economy of time and physical displacement, as well as safety and

20   comfort to the gambler. It also provides freedom to make bets after business hours, and

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the non-use of face-to-face contact for payment. The process reduces the possibility of illegal wagering, enables play for disabled people, and can be translated to many languages. Finally, the process can facilitate identification of the origin of the operation and of the payment source.

5   Current art lottery methods are as follows:

1. For Lottery Numbers games or sports gambling, it is necessary to go to a lottery shop, to fill out a bet card, and submit it to an operator. The bet it put into the system with electronic validation through a card reader, and confirmed by a printed paper voucher containing the bet information, the date, the number of the raffle, the amount to pay, or

10   other required information. The bet data are transferred to the Official Lottery Provider, who computes and consolidates them. The amount due is then paid by the gambler in cash, check, or, if the lottery shop has them, through electronic means such as a credit card or banking net. The payment system is thus totally dissociated from the system of bets, not having a link from the net of the lottery office to the banking net. The most serious

15   disadvantage of this current system is that, if the gambler wins, the only probative document is a paper voucher. The prize is paid to the bearer of the voucher, which allows the possibility of fraud, lost vouchers, or the improper payment to people that didn't make the winning bet. Other disadvantages are the need to make the bet during business hours, which restrains the consumer's schedule, and the inherent cost to the operation of

20   peripheral equipment for two separate nets.

2. A dedicated machine, a calculator-validator-printer, can be installed in the lottery shop and linked on-line to the Official Lottery Provider. The bet card is handwritten on paper cards, with the cards being electronically validated through a card reader that returns

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a printed paper voucher containing the bet, the date, the number of raffle, the amount to pay and other required information. The data is then transferred to the Official Lottery Provider, which computes them and consolidates them. The winnings are then paid to the gamblers by cash, check, or, if the lottery shop has them, electronic means such as a

5   credit card or banking net. The payment system is, again, totally dissociated from the bet system, not having a link between the net of the lottery office and the banking net. The same shortcomings are present in this system as in that discussed above.

3. A dedicated machine, a calculator-monitor-printer, that is installed in places like bars, snack bars and similar establishments. these machines show, through a video

10   monitor, the accomplishment of number bets in recurrent periods of time, like those in the "Pimba" game in Brazil. The machines are linked on-line with the Official Lottery Provider. This type of machine also has the disadvantages of having the payment system totally dissociated from the bet system, not having a link between the net of the lottery office and the banking net, and the need to make the bet at the time in which the shop is open.

15   4. A dedicated machine of the video-game and / or video-poker type, installed in places like that play games like the so called "jogo-da-velha" in Brazil. These machines are linked on-line with the operator of the lottery office for revenue control. These machines are again subject to the disadvantages described above.

5. Games of the Instant-Prize (scratch-and-win type) lottery, like "raspadinha" in

20   Brazil, are made through the purchase of a paper ticket printed with numbers, letters or figures, such printings being covered by a removable opaque film. This game system is, currently, sought principally by people that frequent very popular and crowded places. Users typically have to wait in lines to acquire the tickets.

SUMMARY OF THE INVENTION

The hardware and software integration process for lottery bets operation of the present invention was developed to give a new option to the users of lotteries through the use of the Internet or through dedicated equipment. The system provides an on-line connection to the Lottery Operation Centers and to the banking net, and therefore provides a virtual expansion of points of placing bets. the system simplifies the process and guarantees payment to the proper parties.

The service using the Internet provides an economy of time and physical movement, as well as safety and comfort to the gambler. It further provides the freedom to make bets after business hours. The system provides a secure means of payment, eliminates the possibility of bets from unauthorized people, and provdies access for disabled people. Finally, the process facilitates identification of the origin of the operation and of the bets payment source, helping in the resolution of possible problems resulting from the loss of game vouchers.

Using dedicated equipment presents the advantage of using dedicated terminals in a kiosk setting. The gambler uses the terminal through the video monitor screen, choosing a desired game. The bet is computed immediately, and for overall control, can be stored and transferred periodically to the Lottery Office via disk or magnetic tape, or sent electronically on-line. the control transfer can be done automatically or by using an authorized operator. When the gambler makes payment by bank or credit cards, using his identification data, a direct link is established with the banking or credit card net, Through this data, the bet is dated and identified with total safety. The gambler then receives a printed paper voucher of the transaction. In this way, the beet is linked to the specific

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gambler, so that even if he loses the bet receipt, payment of a winning play can be made to the proper account.

Using the system of the present invention for lottery games of the scratch-and-win type enlarges the potential market by allowing access through personal computers or at

5   kiosks. Using computers for virtual"scratching" for the display of game results in the virtual game card containing hidden numbers, letters or illustrations, presents a new easy and comfortable option to the players. The waste of time spent standing in lines at the lottery sales points is eliminated.

BRIEF DESCRIPTION OF THE DRAWINGS

10   FIGURE 1 shows a block diagram for the system of the present invention.

FIGURE 2 shows the block diagram with linked hardware for dedicated terminals.

DETAILED DESCRIPTION OF THE INVENTION

The system of the present invention uses computers (hardware) and computer programs (software) whose purposes are specific, that is to say: the search and monitoring

15   of incoming lines; prioritizing the access by arrival order, and direction to the services provider; consultation and electronic transfer of values (of the bets) to the banking and / or credit card net in a safe and efficient way; transmission of records of bets (sales), sending a record to the applicant and storing adequate reports and transferring reports to the Lottery Office; and communication with the Lottery Office for accounting of bets / sales

20   and of reports.

The mechanism of the present invention is based on the principles of consulting with

commercial operation via the Internet. This requires a Services Provider (SP), Users (U) and the Internet itself. The SP has a structure based on computers and interface specific computer programs, structured in such a way to enable the reception of communications from the users (U). The SP may also be Host of an Internet Home-Page to provide a point

5   of placement for lottery bets and to accomplish operations of electronic payments through by the banking net and via credit cards. The software of the system is also able to perform authentication / transmission of the bets, and sending of vouchers and receipts to the users (U), and to emit internal operational reports and to communicate with the Lottery Office.

The amount and form of linking of the computers is a function of the structure and

10   attendance philosophy of the SP, that is, the interface with the necessary communication media to link the SP and the Internet connection point. The hosts of the pages of the system of bets attendance must also be compatible with the SP, as must the several servers of the banking or credit card system. The system also requires a database of instruction information and bet records. Finally, the system requires storage and

15   communication means to send and modify information with the Lottery Office.

The user (U), that is to say, the gambler, must have a computer terminal with access to the Internet, and must have access to electronic payment means. The necessary minimum configuration for Internet operation is defined by the user's specific equipment and is compatible with his access provider.

20   The software of the system will provide the operation principles, based on communication with the Internet, with the following sequence:

A) The users (U) access the net and, when navigating with their browser, access a lottery service page, which will guide him to the main menu.

B) The main menu informs the users of links to games available and the results of previous games. The main menu gives users the option to continue or to leave. If a user wants to leave , he will return to the net.

C) To use the system, the user chooses by" clicking" (with the mouse) to either accessing the results of previous games, or the bet type that he intends to make. The system then displays the possible plays together with the pertinent prices.

D) If the user has chosen is to see the results, the user receives the results and will again has the option to continue or to leave. If a user wants to leave, he returns to the net. If he wants to continue, he will return to the main menu.

E) If the option chosen is to bet, the user, after the playing of his game, will receive a record of the game. The record includes the value of each play requiring payment by the banking net or credit cards. The user has the option of continuing to play the game. When he stops, the user will have the option to continue or to leave the site. If he wants to leave, he will return to the net. If he wants to continue, he will return to the main menu. In case of a mistake, an error message will give the reason of the mistake, and the gambler will be given the option of trying again. If the gambler chooses to continue, he will return to the play scree to place the bet; if the gambler chooses not to continue, or after three attempts at placing the bet, the option will be given to continue or to leave. If the user chooses to leave, he returns to the net. If he chooses to continue, he will return to the main menu.

F) When a bet is made, payment is made automatically, the data for the debit or credit cards already having been entered. After the transaction has been approved, the play will be confirmed and recorded. A receipt is generated for the user (U), the receipt showing the financial transaction and including a voucher with the game data in the form

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required by the Lottery Provider. Multiple winning bets can be paid with a single payment process. The system can generate any written communication to the user that is desired.

The Hardware to accomplish the process of the present invention includes a computer arrangement in a local network through dedicated ports to accommodate internet users by providing connections with the banking and credit card nets, and also for connection with the Lottery Office or Official Lottery Provider. The number of access ports required is a function of the number of users. The system requires four microcomputers: a first for communication, ordering and sending of messages (COM), a second for general processing and attendance (PGA), a third for attendance to the Internet (ATI), and a fourth for storage (STO). The four microcomputers have the following minimum characteristics: a processor with a minimum clock of 200MHz; cache memory of256 Kbytes; main memory of 64 Mbytes expandable to at least 128 Mbytes; hard disk of 4 Gbytes, with Fast SCSI-2 interface, with median time of access of 15 ms or less and with a minimum disk transfer rate of 4 Mbytes/s; a 3.5 " floppy-disk drive for 1.44Mb of formatted memory; a CD-ROM unit of 600 Mbytes of formatted memory, SCSI-2 interface, form factor 5.25 inches, a minimum sustained rate of transfer of 330 kbps, medium time of access of 300 ms or less, reading/record by ISO 9660, HIGH-SIERRA, CD-ROM KODAK Photo CD or similar standard, with minimum eight times the standard speed; I/O unit with a parallel interface Centronics standard, two high-speed serial interfaces EIA RS-232 C/CCITT V 24N.48 standard and a SCSI-2 Fast/Wide interface; network interface IEEE 802.3 (Ethernet) standard, PCI Wit11 an UTP port (100Base-T); a color SVGA 15 "Video Monitor with a resolution of 1024x768 and 0.28 mm dot pitch non interlaced; expansion capability with at least two PCI slots, a PCI/ISA slot and 3 ISA slots; 101 keys keyboard; and a three button

mouse with a 400 dpi resolution.

The STO microcomputer will also include an external magnetic tape unit for 4 mm D A T tapes (D A T cartridges), with a minimum formatted storage capacity of 8 Gbytes (without compression), SCSI-2 interface(standard ANSI X3.13 i.-1994) and minimum MTBF

5   70,000 hours; with a color scanner with capacity for 16.7 million colors, minimum resolution of 1,200 dpi, SCSI/SCSI-2 interface (standard ANSI X3.131-1990/1994), scan area of 8.5 x 14 inches, support to PICT, TIFF and EPS (minimum), and drivers that run in other platforms.

The COM microcomputer will also include multiserial communication interfaces with

10   12 high-speed ports standard EIA RS-232CICCITT V.24N.48 and high- speed interface for connection at 64 Kbps at least.

Referring now to FIGURE 1, the process for use of the Internet occurs in the following sequence: the user (U) will communicate with the Phone Network (PN), which will be connected with the Services Provider (SP) that has 12 external modems (MD) compatible with the interfaces of the first microcomputer (COM) interfaces. The first

15   microcomputer (COM) is connected to the modems (MD) and connection box (HUB), with the connection box (HUB) connected to the first microcomputer (COM), the second microcomputer (PGA), the third microcomputer (ATI), and the fourth microcomputer (STO). The second microcomputer (PGA) is connected to the box (HUB) and to the scanner (SCA)

20   and the printer (PRI). The third microcomputer (ATI) is connected to the box (HUB). The fourth microcomputer (STO) is connected to the box (HUB) and to the Tape Unit (TU).

The computer programs (Software) of the present invention run in local network 100 baseT. The chosen platform for the preferred embodiment is Windows NT. The programs

include at least the following: management of the system, making specific reports as well as surveillance against intruders (a firewall), communication among the units of the local network, and communication with the access means as well as with the Internet; storage and database updating in real time; operational safety with cryptography resources; electronic data exchanges directing banking / credit card transfers; page hosting and maintenance on the Internet.

The necessary software for the server stations will have as a minimum MS-DOS 6.22 or better, WINDOWS NT, OFFICE PRO, BORLAND C++ 4.0, VISUAL BASIC 3.0 PRO or better, SNMP Agent, Lottery Management, Fire Wall, Anti-virus, Electronics Data Exchanges / Banking / cards transfer Interface, Cryptography, HTML pages provision, MS EXPLORER or NETSCAPE, Communication and database software SYBASE or ORACLE. The Attendant Stations have the following minimum specifications: MS-DOS 6.22 or superior, WINDOWS 95/98, Cryptography, HTML Pages Providing, Communication, SNMP Agent and access to the database.

According to FIGURE 2, the dedicated equipment for lottery bets comprises a processor (1) for general processing and accesses attendance, with a central processor such as INTEL PENTIUM PRO or the equivalent, with the following minimum requirements: clock of 200 MHZ, " cache " memory of 256 Kbytes, main memory of 64 Mbytes expandable to at least 128 Mbytes, an auxiliary standard keyboard with 101 keys.

For access to the databases and the programs by authorized technicians a hard disk for a database, with a formatted storage capacity of 4 Gbytes or more, with "Fast SCSI-2" communication interface ANSI X3 .131-1994 standard, with an access time of 15 ms or less and a minimum transfer rate of 4 Mbytes/s, a 3.5 " floppy-disk unit with 1.44

Mbytes formatted capacity, for data storage and transfer, a" DAT" (Digital Audio Tape) tape unit for storage of data that can be periodically transferred to the lottery net, with minimum storage capacity of 8 Gbytes without data compression, with type "SCSI-2" communication interface ANSI X3 .131-1994 standard, with minimum time between failures (MTBF) of at

5   least 70,000 hours. The system further comprises a CD-ROM unit for storage and transfer of data, with minimum speed 24 times greater than standard "MPC", minimum formatted capacity of 600 Mbytes, type" SCSI-2" communication interface, form factor of 5.25 inches, sustained transfer rate of 330 kbps or more, median access time of 300 ms or less, reading/record by ISO 9660, HIGH-SIERRA, CD-ROM X-A, and KODAK Photo CD or the

10   like. The system includes a soundboard unit, a video monitor (2) type touch screen where the gambler will make his choices through a menu, and which will inform his data bank after making the bet. The monitor will have at least the following minimum requirements: color, 14 " super VGA standard, with a resolution of 1 025x768 points, 0.28 mm "dot pitch", non interlaced, touch sensitive, a communication interface set (3) for communication

15   (through the public phone system) with the banking, credit card, and lottery nets, multiserial with a minimum 6 ports, EIA RS-232C/CCITT V.24/V.48 standard and 6 modems compatible with the described interfaces and a speed of 33.6 Kbps. The system also includes a magnetic cards reader unit (4), for reading of the gambler's debit or credit card, a speaker (5), a printer unit (6), and the electric current source (7) .

20   The software that allows the access and operation of the dedicated equipment accomplishes the following sequence of events:

xx   a) The user (U) is introduced to the start screen with alternating screens so as to avoid burning the video monitor. The user presses a Start key on the touch sensitive

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monitor to access the main menu.

b) The "main menu" screen offers the following options: to verify the result of previous games, and to choose the possible game types (type I game, type II game, type III game, and so on). In case the system does not change for more than 2 minutes, without any choice on the part of the user, the system returns to the start screen (stage a);

c) When the user (U) has opted for verifying the result of previous games, he is presented a menu screen with the following options: the date of the desired transaction, the transaction number, or return to the main menu. In case the system does not change for more than 2 minutes, without any choice on the part of the user, the system returns to the main menu (stage b);

d) If, in stage b, the user (U) has chosen one of the offered games types, the system requests a confirmation of the desired game. If the option is "do not play game", the system returns to the main menu (stage b). If the option is "play game", the system advances to (stage e);

e) The game play menu offers the possible options for play, such as combinations of letters, illustrations, etc., according to the type of game chosen. After confirmation on the user's part, the system checks the validity of the bet, avoiding such mistakes as repetition of numbers, etc. In case mistakes are discovered in the bet, the system indicates them to the user, and offers a new option. After a limit of 3 errors, the system returns to the main menu (stage b). When the bet is validated by the system, the system advances to stage (f);

f) The system offers the option "to leave the game". If the answer is affirmative, the system returns to the start screen (stage a). If the answer is negative, the system advances

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to stage (g);

g) The menu of bank / credit card choice allows the user to indicate his bank or credit card operator for payment of the bet.

h) The user passes his magnetic card through the card reader, and his data are transferred to the banking or credit card net;

i) The user types his data to validate the payment with confirmation and a limit of 3 incorrect attempts. There is a return to the stage (f) if this limit is exceeded; and

j) The system prints the bet and payment voucher, containing the necessary data for the user to verify the results. The system then returns to the main menu (stage b).

The software and hardware utilizing the internet or the dedicated equipment of the present invention can also be used for lottery bets of the "scratch-and-win" type. In this case, the software creates a virtual game card with an outer layer that can be removed by the user, and an inner layer covered by the outer layer which contains information that is typical for this game type (prizes, information, messages, etc.).

Each virtual game card will be available or liberated only after the payment operation is concluded. The card will appear in a prominent region on the screen, so that the removal of the covering (erasing)can begin. The gambler clicks on the card with the mouse (in the Internet-based operation) or touches with his finger (in the kiosk operation), to begin the removal of the outer layer. This process, once begun, is irreversible. In case an award is won, it will appear on the screen. A ticket with the operation information is printed, from which the player will opt for receiving his prize via electronic bank operation or via authorized bank. The payment of the prize can be made automatically by means of deposit in the gambler's bank account with a voucher of the deposit to the bank account

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being transmitted.

The outer layer of the game card will only be altered once with the "scratching", by use of the mouse, in the case of a microcomputer linked to the Internet, or by the use of the finger, in the case of dedicated game machine. The layers will be assembled prior tp

5   play, taking into account the information established by the Lottery Office. The cards are appropriately coded, and the number of virtual game cards is controlled by the Lottery Office. The lower layer will be fixed and will never be altered.

The above disclosure is not intended as limiting. Those skilled in the art will recognize that numerous modifications and alterations may be made while retaining the

10   teachings of the invention. Accordingly, the above disclosure should be construed as limited only by the restrictions of the appended claims.